AMENDMENTS TO THE CLAIMS

Claims 1-10 (Canceled)

11. (Currently amended) A process for recovering at least one polymer in solution in a solvent which comprises precipitating by means of a non-solvent introduced gradually into the solution to form the precipitation medium, ~~wherein :~~ wherein:

- in the course of the introduction of the non-solvent into the precipitation medium, there is first a phase separation (into a continuous phase rich in solvent, in which the polymer is dissolved, and into a disperse phase, consisting of droplets rich in non-solvent) and then there is a phase inversion (the continuous phase then becoming the phase rich in non-solvent, and the disperse phase becoming the phase rich in solvent containing the dissolved polymer)
- the non-solvent is initially introduced into the precipitation medium in liquid form only and in a quantity (Q') which is not zero but is less than the quantity (Q) required to bring about the phase inversion, and the remaining quantity of non-solvent is subsequently introduced into the precipitation medium as a flow in which the vapor fraction is predominant,
- when a phase separation agent is used in the precipitation medium, the solution of polymer to be precipitated is substantially free of this phase separation agent at the time of phase inversion.

12. (Previously presented) The process according to claim 11, wherein the polymer is PVC, the solvent is MEK (methyl ethyl ketone) and the non-solvent is water.

13. (Previously presented) The process according to claim 11, wherein the quantity Q' is greater than or equal to 50 % (by volume) of the quantity Q.

14. (Previously presented) The process according to claim 11, wherein the introduction time of the quantity Q' into the precipitation medium is greater than or equal to 10 minutes.

15. (Previously presented) The process according to claim 11, wherein all the non-solvent introduced into the precipitation medium after the quantity Q' has been introduced into it is in vapor form.

16. (Previously presented) The process according to claim 11, wherein the solvent and the non-solvent form an azeotrope and the total quantity of non-solvent introduced in vapor form is sufficient to allow the azeotropic distillation of the solvent.

17. (Cancelled)

18. (Previously presented) The process according to claim 16, wherein the precipitation medium comprises two different dispersants of which one has a greater affinity for the non-solvent (dispersant I) and the other has a greater affinity for the solvent (dispersant II).

19. (Previously presented) A process for recycling at least one article based on at least one polymer which comprises:

a) optionally shredding the article into fragments with an average size of 1 cm to 50 cm,

b) contacting the article or the article fragments with a solvent able to dissolve the polymer and

c) recovering the polymer in solution using a process according to claim 11.

20. (Previously presented) The process of recycling according to claim 19, which is a closed loop process in which the solvent and the non-solvent are regenerated at least in part by decantation, and wherein a phase separation agent is present at least in part during the said decantation but is substantially absent during the precipitation of the polymer.

21. (Previously presented) The process according to claim 20, wherein the phase separation agent has a greater affinity for the solvent than for the non-solvent and is substantially removed from the regenerated solvent before the polymer is dissolved.

22. (Currently Amended) A process for recovering at least one polymer in solution in a solvent which comprises precipitating by means of a non-solvent introduced gradually into the solution to form the precipitation medium, ~~wherein :~~ wherein:

- in the course of the introduction of the non-solvent into the precipitation medium, there is first a phase separation (into a continuous phase rich in solvent, in which the polymer is dissolved, and into a disperse phase, consisting of droplets rich in non-solvent) and then there is a phase inversion (the continuous phase then becoming the phase rich in non-solvent, and the disperse phase becoming the phase rich in solvent containing the dissolved polymer)
- the non-solvent is initially introduced into the precipitation medium in liquid form and in a quantity (Q') which is not zero but is less than the quantity (Q) required to bring about the phase inversion, and the remaining quantity of non-solvent is subsequently introduced into the precipitation medium as predominately a vapor flow,
- when a phase separation agent is used in the precipitation medium, the solution of polymer to be precipitated is substantially free of this phase separation agent at the time of phase inversion.

23. (Previously presented) The process according to claim 22, wherein the polymer is PVC, the solvent is MEK (methyl ethyl ketone) and the non-solvent is water.

24. (Previously presented) The process according to claim 22, wherein the quantity Q' is greater than or equal to 50 % (by volume) of the quantity Q.

25. (Previously presented) The process according to claim 22, wherein the introduction time of the quantity Q' into the precipitation medium is greater than or equal to 10 minutes.

26. (Previously presented) The process according to claim 22, wherein all the non-solvent introduced into the precipitation medium after the quantity Q' has been introduced into it is in vapor form.

27. (New) The process as claimed in claim 11, which consists essentially of precipitating by means of a non-solvent introduced gradually into the solution to form the precipitation medium, wherein:

- in the course of the introduction of the non-solvent into the precipitation medium, there is first a phase separation (into a continuous phase rich in solvent, in which the polymer is dissolved, and into a disperse phase, consisting of droplets rich in non-solvent) and then there is a phase inversion (the continuous phase then becoming the phase rich in non-solvent, and the disperse phase becoming the phase rich in solvent containing the dissolved polymer)
- the non-solvent is initially introduced into the precipitation medium in liquid form only and in a quantity (Q') which is not zero but is less than the quantity (Q) required to bring about the phase inversion, and the remaining quantity of non-solvent is subsequently introduced into the precipitation medium as a flow in which the vapor fraction is predominant,
- when a phase separation agent is used in the precipitation medium, the solution of polymer to be precipitated is substantially free of this phase separation agent at the time of phase inversion.

28. (New) The process as claimed in claim 22, which consists essentially of precipitating by means of a non-solvent introduced gradually into the solution to form the precipitation medium, wherein:

- in the course of the introduction of the non-solvent into the precipitation medium, there is first a phase separation (into a continuous phase rich in solvent, in which the polymer is dissolved, and into a disperse phase, consisting of droplets rich in non-solvent) and then there is a phase inversion (the continuous phase then becoming the phase rich in non-solvent, and the disperse phase becoming the phase rich in solvent containing the dissolved polymer)
- the non-solvent is initially introduced into the precipitation medium in liquid form and in a quantity (Q') which is not zero but is less than the quantity (Q) required to bring about the phase inversion, and the remaining quantity of non-solvent is subsequently introduced into the precipitation medium as predominately a vapor flow.

- when a phase separation agent is used in the precipitation medium, the solution of polymer to be precipitated is substantially free of this phase separation agent at the time of phase inversion.

29. (New) A process for recycling at least one article based on at least one polymer which consists essentially of:

a) optionally shredding the article into fragments with an average size of 1 cm to 50 cm,

b) contacting the article or the article fragments with a solvent able to dissolve the polymer and

c) recovering the polymer in solution using a process according to claim 27.